

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 09 | 856,812B
Source: IFW16
Date Processed by STIC: 11/07/2005

ENTERED



IFW

IFW16

RAW SEQUENCE LISTING

DATE: 11/07/2005

PATENT APPLICATION: US/09/856,812B

TIME: 12:22:40

Input Set : A:\L0461.70115US00 SEQUENCE LISTING (SECOND REVISION).txt

Output Set: N:\CRF4\11072005\I856812B.raw

```

3 <110> APPLICANT: Huang, Lan-Qing
4   Van Pel, Aline
5   Brasseur, Francis
6   De Plaen, Etienne
7   Boon, Thierry
9 <120> TITLE OF INVENTION: Tumour Rejection Antigens
11 <130> FILE REFERENCE: L0461.70115US00
13 <140> CURRENT APPLICATION NUMBER: US 09/856,812B
-> 14 <141> CURRENT FILING DATE: 2001-09-07
16 <150> PRIOR APPLICATION NUMBER: GB 9826143.1
17 <151> PRIOR FILING DATE: 1998-11-27
19 <160> NUMBER OF SEQ ID NOS: 57
21 <170> SOFTWARE: PatentIn Ver. 3.2
23 <210> SEQ ID NO: 1
24 <211> LENGTH: 369
25 <212> TYPE: PRT
26 <213> ORGANISM: Homo sapiens
28 <400> SEQUENCE: 1
29 Met  Pro  Arg  Ala  Pro  Lys  Arg  Gln  Arg  Cys  Met  Pro  Glu  Glu  Asp  Leu
30   1      5      10      15
32 Gln  Ser  Gln  Ser  Glu  Thr  Gln  Gly  Leu  Glu  Gly  Ala  Gln  Ala  Pro  Leu
33      20      25      30
35 Ala  Val  Glu  Glu  Asp  Ala  Ser  Ser  Ser  Thr  Ser  Thr  Ser  Ser  Ser  Phe
36      35      40      45
38 Pro  Ser  Ser  Phe  Pro  Ser  Ser  Ser  Ser  Ser  Ser  Ser  Ser  Ser  Cys  Tyr
39      50      55      60
41 Pro  Leu  Ile  Pro  Ser  Thr  Pro  Glu  Glu  Val  Ser  Ala  Asp  Asp  Glu  Thr
42  65      70      75      80
44 Pro  Asn  Pro  Pro  Gln  Ser  Ala  Gln  Ile  Ala  Cys  Ser  Ser  Pro  Ser  Val
45      85      90      95
47 Val  Ala  Ser  Leu  Pro  Leu  Asp  Gln  Ser  Asp  Glu  Gly  Ser  Ser  Ser  Gln
48      100     105     110
50 Lys  Glu  Glu  Ser  Pro  Ser  Thr  Leu  Gln  Val  Leu  Pro  Asp  Ser  Glu  Ser
51      115     120     125
53 Leu  Pro  Arg  Ser  Glu  Ile  Asp  Glu  Lys  Val  Thr  Asp  Leu  Val  Gln  Phe
54      130     135     140
56 Leu  Leu  Phe  Lys  Tyr  Gln  Met  Lys  Glu  Pro  Ile  Thr  Lys  Ala  Glu  Ile
57 145      150     155     160
59 Leu  Glu  Ser  Val  Ile  Lys  Asn  Tyr  Glu  Asp  His  Phe  Pro  Leu  Leu  Phe
60      165     170     175
62 Ser  Glu  Ala  Ser  Glu  Cys  Met  Leu  Leu  Val  Phe  Gly  Ile  Asp  Val  Lys
63      180     185     190
65 Glu  Val  Asp  Pro  Thr  Gly  His  Ser  Phe  Val  Leu  Val  Thr  Ser  Leu  Gly

```

RAW SEQUENCE LISTING

DATE: 11/07/2005

PATENT APPLICATION: US/09/856,812B

TIME: 12:22:40

Input Set : A:\L0461.70115US00 SEQUENCE LISTING (SECOND REVISION).txt

Output Set: N:\CRF4\11072005\I856812B.raw

```

66      195      200      205
68 Leu Thr Tyr Asp Gly Met Leu Ser Asp Val Gln Ser Met Pro Lys Thr
69      210      215      220
71 Gly Ile Leu Ile Leu Ile Leu Ser Ile Ile Phe Ile Glu Gly Tyr Cys
72 225      230      235      240
74 Thr Pro Glu Glu Val Ile Trp Glu Ala Leu Asn Met Met Gly Leu Tyr
75      245      250      255
77 Asp Gly Met Glu His Leu Ile Tyr Gly Glu Pro Arg Lys Leu Leu Thr
78      260      265      270
80 Gln Asp Trp Val Gln Glu Asn Tyr Leu Glu Tyr Arg Gln Val Pro Gly
81      275      280      285
83 Ser Asp Pro Ala Arg Tyr Glu Phe Leu Trp Gly Pro Arg Ala His Ala
84      290      295      300
86 Glu Ile Arg Lys Met Ser Leu Leu Lys Phe Leu Ala Lys Val Asn Gly
87 305      310      315      320
89 Ser Asp Pro Arg Ser Phe Pro Leu Trp Tyr Glu Glu Ala Leu Lys Asp
90      325      330      335
92 Glu Glu Glu Arg Ala Gln Asp Arg Ile Ala Thr Thr Asp Asp Thr Thr
93      340      345      350
95 Ala Met Ala Ser Ala Ser Ser Ser Ala Thr Gly Ser Phe Ser Tyr Pro
96      355      360      365
98 Glu
102 <210> SEQ ID NO: 2
103 <211> LENGTH: 234
104 <212> TYPE: PRT
105 <213> ORGANISM: Homo sapiens
107 <400> SEQUENCE: 2
108 Met Leu Leu Gly Gln Lys Ser Gln Arg Tyr Lys Ala Glu Glu Gly Leu
109 1      5      10      15
111 Gln Ala Gln Gly Glu Ala Pro Gly Leu Met Asp Val Gln Ile Pro Thr
112      20      25      30
114 Ala Glu Glu Gln Lys Ala Ala Ser Ser Ser Thr Leu Ile Met Gly
115      35      40      45
117 Thr Leu Glu Glu Val Thr Asp Ser Gly Ser Pro Ser Pro Pro Gln Ser
118      50      55      60
120 Pro Glu Gly Ala Ser Ser Ser Leu Thr Val Thr Asp Ser Thr Leu Trp
121 65      70      75      80
123 Ser Gln Ser Asp Glu Gly Ser Ser Ser Asn Glu Glu Glu Gly Pro Ser
124      85      90      95
126 Thr Ser Pro Asp Pro Ala His Leu Glu Ser Leu Phe Arg Glu Ala Leu
127      100      105      110
129 Asp Glu Lys Val Ala Glu Leu Val Arg Phe Leu Leu Arg Lys Tyr Gln
130      115      120      125
132 Ile Lys Glu Pro Val Thr Lys Ala Glu Met Leu Glu Ser Val Ile Lys
133      130      135      140
135 Asn Tyr Lys Asn His Phe Pro Asp Ile Phe Ser Lys Ala Ser Glu Cys
136 145      150      155      160
138 Met Gln Val Ile Phe Gly Ile Asp Val Lys Glu Val Asp Pro Ala Gly
139      165      170      175

```

RAW SEQUENCE LISTING

DATE: 11/07/2005

PATENT APPLICATION: US/09/856,812B

TIME: 12:22:40

Input Set : A:\L0461.70115US00 SEQUENCE LISTING (SECOND REVISION).txt

Output Set: N:\CRF4\11072005\I856812B.raw

```

141 His Ser Tyr Ile Leu Val Thr Cys Leu Gly Leu Ser Tyr Asp Gly Leu
142          180          185          190
144 Leu Gly Asp Asp Gln Ser Thr Pro Lys Thr Gly Leu Leu Ile Ile Val
145          195          200          205
147 Leu Gly Met Ile Leu Met Glu Gly Ser Arg Ala Pro Glu Glu Ala Ile
148          210          215          220
150 Trp Glu Ala Leu Ser Val Met Gly Ala Val
151 225          230
154 <210> SEQ ID NO: 3
155 <211> LENGTH: 3510
156 <212> TYPE: DNA
157 <213> ORGANISM: Homo sapiens
159 <220> FEATURE:
160 <221> NAME/KEY: CDS
161 <222> LOCATION: (1955)..(3064)
163 <400> SEQUENCE: 3
164 caggagatg gtggctttgg cgtgcaagac ccatacacga ttcagcagga gggaaaggct 60
165 gggctgtcgg gagtaaactc gaatacctgg aggacaccca aataaaggaa gtccccgtct 120
166 tgtccccctc ccttgcccac ccccccccc ccccccgcca aatgtctgct ctttctgtca 180
167 gctttgggaa tcccatgcag gtgtgatcgt gtggtgcccc tcccacttc tgcctgccgg 240
168 gtctcaggga ggtgaggacc ttggtctgag ggttgctaag aagttattac aggggtccac 300
169 acttggtcaa cagagggagg agtcccagaa tctgcaggac ccaaggggtg ccccttagt 360
170 gaggactgga ggtacctgca gccagaaaag aagggatgtc acagagtctg gctgtcccct 420
171 gttcttagct ctgaggggac ctgatcagga ttggcactaa gtggcaagct caattttacc 480
172 acaggcagga agatgaggaa ccctcaggga aatggagttt tgggtgtaaag gggagatatc 540
173 agccctggac accccacagg gatgacagga tgtggctcct tcttactttt gttttggaat 600
174 ctcaggggagg tgagaacctt gctctcagag ggtgactcaa gtcaacacag ggaaccctc 660
175 ttttctacag acacagtggg tcgcaggatc tgacaagagt ccaggttaagg aacctgaggg 720
176 aaatctgagg gtacccccag ccataaacac agatgggggtc cccacagaaa tctgccatga 780
177 ccctactgtc actctggaga acccagtcag ggctgtccgc tgagtctccc tgtcttatac 840
178 aaggatcact ggtctctggg agggagaggt gttggtctaa gggagctgca ctcggtcag 900
179 cagagggagg gtcccagacc ctgccaggag tcaaggtgag gactgagggg acaccattct 960
180 ccaaagcac aggaactcag cccaccctac cccttctgtc agccacggga attcatgggg 1020
181 aactgggggt agatggactc ccctcacttc ctctttccat gtctcctgga ggtaggacct 1080
182 tggtttaagg aagtggcctc agatcaacaa agggagggtc ccaggtcgta tcaggcatca 1140
183 agaagaggac caagcaggct cctcacccca gtacacatgg acccagctga atatggccac 1200
184 ctcttgctgt cttttctggg aggacctctg cagttgtggc cagatgtggg tcccctcatg 1260
185 tcttctatct cgtatcaggg atgtaagctt ttgatctgag agtttcttag accagcaaag 1320
186 gagcagggtc taggcttttc caggagaaaag gtgagagccc cacgtgagca cagaggctcc 1380
187 ccaccccagg gtagtgggga actcacagag tccagcccac cctcctgaca aactggggag 1440
188 gctggggctg tgcttcgagc ctgaacctg agggccctc aattcctctt tcaggagctc 1500
189 cagggactgt gaggtgaggc cttggtctaa ggcagtgtt tcaagtcaca gagcagaaag 1560
190 ggcccagaca gtgccaggag tcaaggtgag gtgcatgccc tgaatgtgta ccaagggccc 1620
191 cacctgctcc aggacaaagt ggacccctc gcatcagctc cacctacctt actgtcagtc 1680
192 ctggagcctt ggcctctgcc ggctgcatcc tgaggagcca tctctcactt cttcttcag 1740
193 gttctcaggg gacagggaga gcaagaggtc aagagctgtg ggacaccaca gagcagcact 1800
194 gaaggagaag acctgtaagt tggcctttgt tagaacctcc aggggtgtgt tctcagctgt 1860
195 ggccacttac accctccctc tctcccagg cctgtgggtc cccatcgccc aagtcctgcc 1920
197 cacactccca cctgctaccc tgatcagagt catc atg cct cga gct cca aag cgt 1975

```


RAW SEQUENCE LISTING

DATE: 11/07/2005

PATENT APPLICATION: US/09/856,812B

TIME: 12:22:40

Input Set : A:\L0461.70115US00 SEQUENCE LISTING (SECOND REVISION).txt

Output Set: N:\CRF4\11072005\I856812B.raw

```

263          250          255          260
265 tat ggg gag ccc agg aag ctg ctc acc caa gat tgg gtg cag gaa aac 2791
266 Tyr Gly Glu Pro Arg Lys Leu Leu Thr Gln Asp Trp Val Gln Glu Asn
267          265          270          275
269 tac ctg gag tac cgg cag gtg cct ggc agt gat cct gca cgg tat gag 2839
270 Tyr Leu Glu Tyr Arg Gln Val Pro Gly Ser Asp Pro Ala Arg Tyr Glu
271 280          285          290          295
273 ttt ctg tgg ggt cca agg gct cat gct gaa att agg aag atg agt ctc 2887
274 Phe Leu Trp Gly Pro Arg Ala His Ala Glu Ile Arg Lys Met Ser Leu
275          300          305          310
277 ctg aaa ttt ttg gcc aag gta aat ggg agt gat cca aga tcc ttc cca 2935
278 Leu Lys Phe Leu Ala Lys Val Asn Gly Ser Asp Pro Arg Ser Phe Pro
279          315          320          325
281 ctg tgg tat gag gag gct ttg aaa gat gag gaa gag aga gcc cag gac 2983
282 Leu Trp Tyr Glu Glu Ala Leu Lys Asp Glu Glu Glu Arg Ala Gln Asp
283          330          335          340
285 aga att gcc acc aca gat gat act act gcc atg gcc agt gca agt tct 3031
286 Arg Ile Ala Thr Thr Asp Asp Thr Thr Ala Met Ala Ser Ala Ser Ser
287          345          350          355
289 agc gct aca ggt agc ttc tcc tac cct gaa taa agtaagacag attcttcact 3084
290 Ser Ala Thr Gly Ser Phe Ser Tyr Pro Glu
-> 291 360          365          370
293 gtgtttttaaa aggcaagtca aataccacat gatttttactc atatgtggaa tctaaaaaaaa 3144
294 aaaaaaaaaaa aagttggtat catggaagta gagagtagag cagtagttac attacaatta 3204
295 aataggagga ataagttcta gtgttctatt gcacagtagg atgactatag ttaacattaa 3264
296 gatattgtat attacaaaac agctagaagg aaggcttttc aatattgtca ccaaaaagaa 3324
297 atgataaatg catgaggtga tggatacact acctgatttg atcattatac tacatataca 3384
298 tgaatcagaa catcaaattg tacctcataa atatctacaa ttacatgtca gtttttgttt 3444
299 atgtttttgt ttttttttaa tttatgaaaa caaatgagaa tggaaatcaa tgatgtatgt 3504
300 ggtgga 3510
303 <210> SEQ ID NO: 4
304 <211> LENGTH: 2559
305 <212> TYPE: DNA
306 <213> ORGANISM: Homo sapiens
308 <400> SEQUENCE: 4
309 tccgggggtcg ctcgagccgg ccgggactcg gggatcasaa gtaacggcgg yymkygtkct 60
310 gagggaacagg cttgagatcg gctgaagaga gcgggccag gctctgtgag gaggcaaggg 120
311 aggtgagaac cttgctctca gagggtgact caagtcaaca cagggaaccc ctcttttcta 180
312 cagacacagt gggtcgcagg atctgacaag agtccagggt ctcaggggac agggagagca 240
313 agaggtcaag agctgtggga caccacagag cagcactgaa ggagaagacc tgctgtggg 300
314 tccccatcgc ccaagtcctg cccacactcc cacctgctac cctgatcaga gtcacatgc 360
315 ctcgagctcc aaagcgtcag cgctgcatgc ctgaagaaga tcttcaatcc caaagtgaga 420
316 cacagggcct cgagggtgca caggctcccc tggctgtgga ggaggatgct tcatcatcca 480
317 cttccaccag ctctcttttt ccactctctt ttcctctctc ctctcttcc tctctctcct 540
318 cctgctatcc tctaatacca agcaccacag aggaggtttc tgctgatgat gagacaccaa 600
319 atcctcccca gagtgctcag atagcctgct cctccccctc ggtcgttgct tcccttccat 660
320 tagatcaatc tgatgagggc tccagcagcc aaaaggagga gagtccaagc accctacagg 720
321 tctgccaga cagtgagtct ttaccagaa gtgagataga tgaaaagggt actgatttgg 780
322 tgcagtttct gctcttcaag tatcaaatga aggagccgat cacaaaggca gaaatactgg 840

```

VERIFICATION SUMMARY

DATE: 11/07/2005

PATENT APPLICATION: US/09/856,812B

TIME: 12:22:41

Input Set : A:\L0461.70115US00 SEQUENCE LISTING (SECOND REVISION).txt

Output Set: N:\CRF4\11072005\I856812B.raw

14 M:271 C: Current Filing Date differs, Replaced Current Filing Date
291 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:3
163 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:5